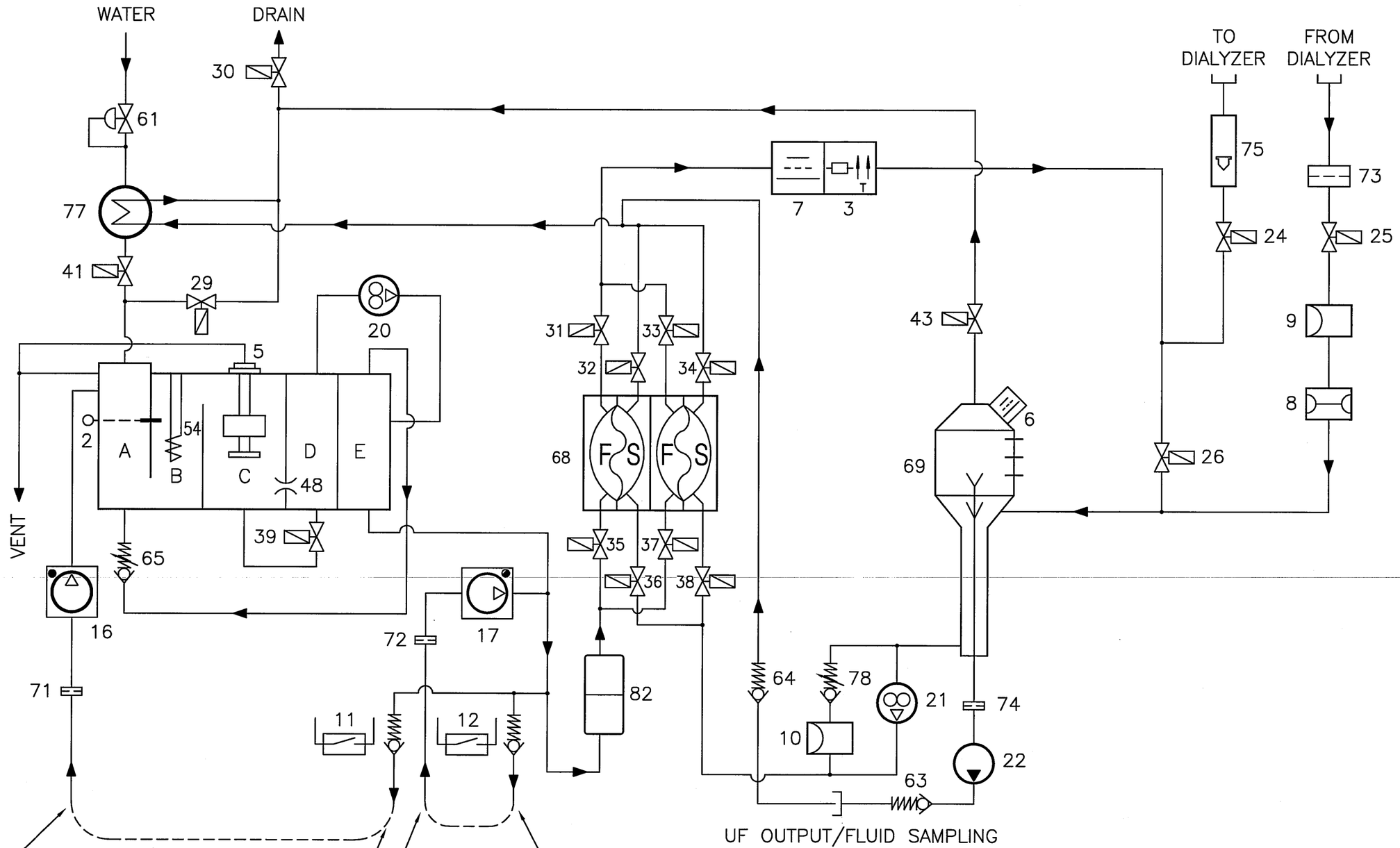
HYDRAULICS: FRESENIUS 2008K

REV	ECO #	BY	DATE	CHK	REVISION
A	7222	BH	7.21.00	JEF	RELEASE
B	7655	RR	10.11.01	JEF	ADD 3 OTHER HYDRAULIC CONFIGURATIONS
C	12092	RR	9.25.03	JEF	ADD 2 DIASAFE PLUS HYDRAULIC CONFIGURATIONS
D	21053	BH	7.11.07	JEF	CORRECTED FLOW FOR TEST VALVE 28



COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
9. DIALYSATE PRESSURE TRANSDUCER
10. CHAMBER FULL SWITCH
11. REED SWITCH CONCENTRATE WAND
12. REED SWITCH BICARBONATE WAND
16. CONCENTRATE PUMP
17. BICARBONATE PUMP
20. DEAERATION PUMP
21. FLOW PUMP
22. UF PUMP
24. DIALYZER VALVE 1
25. DIALYZER VALVE 2
26. BYPASS VALVE
29. RECIRCULATION VALVE
30. DRAIN VALVE
31. BALANCE CHAMBER VALVE
32. BALANCE CHAMBER VALVE
33. BALANCE CHAMBER VALVE
34. BALANCE CHAMBER VALVE
35. BALANCE CHAMBER VALVE
36. BALANCE CHAMBER VALVE
37. BALANCE CHAMBER VALVE
38. BALANCE CHAMBER VALVE
39. BYPASS VALVE FOR DEAERATION ORIFICE
41. WATER INLET VALVE
43. VENT VALVE FOR AIR SEPARATION CHAMBER
48. DEAERATION ORIFICE
54. HEATER
61. WATER INLET PRESSURE REGULATOR
63. CHECK VALVE FROM UF PUMP TO SAMPLE PORT
64. CHECK VALVE FROM SAMPLE PORT TO DRAIN
65. LOADING PRESSURE VALVE
69. AIR SEPARATION CHAMBER
71. ACID/ACETATE FILTER
72. BICARBONATE FILTER
73. FROM DIALYZER LINE FILTER
74. UF PUMP FILTER
75. DIALYSATE LINE FLOW INDICATOR
77. HEAT EXCHANGER
78. FLOW PUMP PRESSURE RELIEF VALVE
82. MIXING CHAMBER

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	DATE	NAME
DRAWN	7.21.00	B. HOLMQUIST

MATERIAL

2008K HYDRAULIC FLOW DIAGRAM

SCALE NONE

FRESENIUS

700072

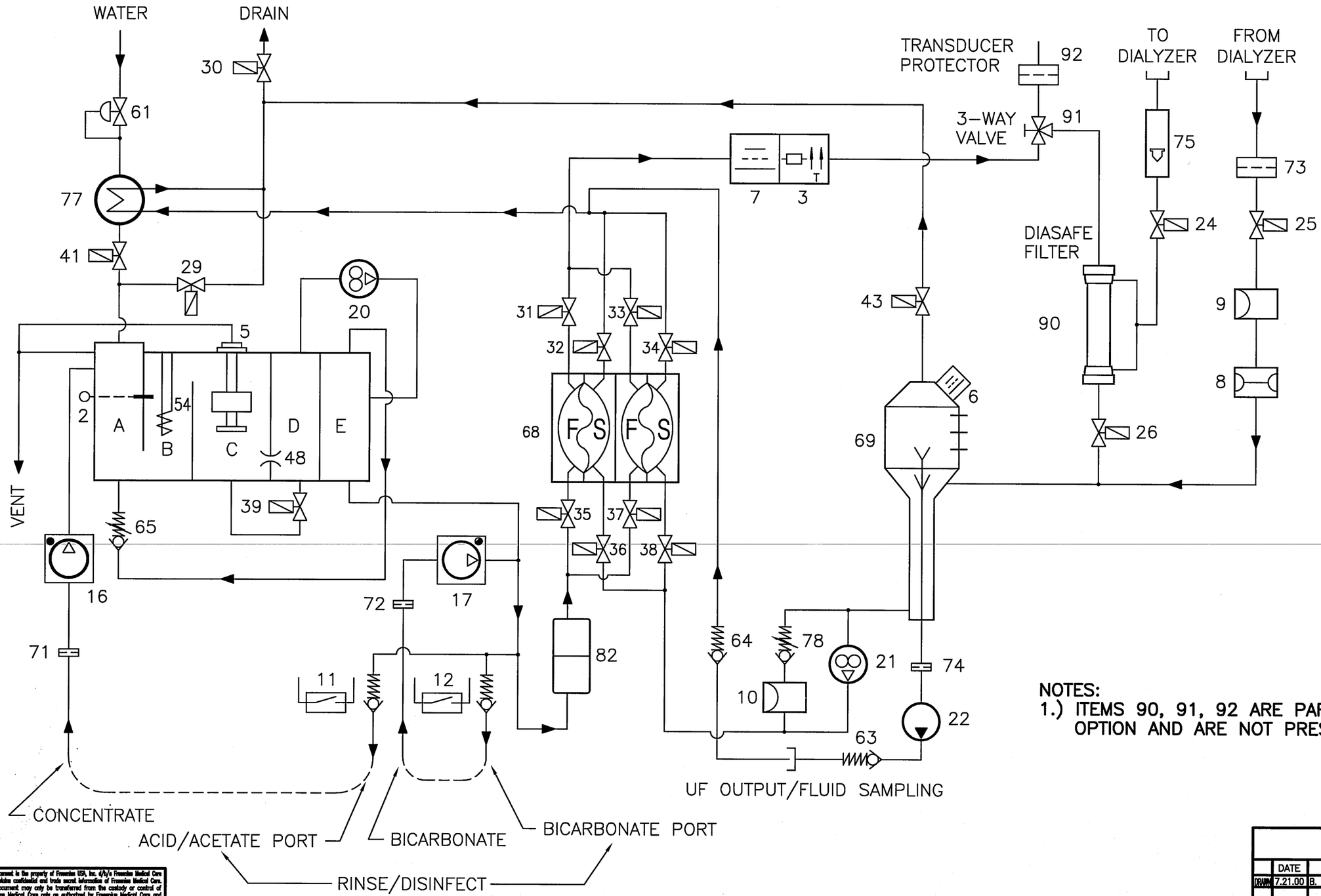
REV. D

SHEET 1 OF 6

DWG_700072 2008K HYDRAULIC FLOW DIAGRAMS

HYDRAULICS: FRESENIUS 2008K WITH DIASAFE FILTER

REV	ECO #	BY	DATE	CHK	REVISION
A	7222	BH	7.21.00	JEF	RELEASE
B	7655	RR	10.11.01	JEF	ADD 3 OTHER HYDRAULIC CONFIGURATIONS
C	12092	RR	9.25.03	JEF	ADD 2 DIASAFE PLUS HYDRAULIC CONFIGURATIONS
D	21053	BH	7.11.07	JEF	CORRECTED FLOW FOR TEST VALVE 28



COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
9. DIALYSATE PRESSURE TRANSDUCER
10. CHAMBER FULL SWITCH
11. REED SWITCH CONCENTRATE WAND
12. REED SWITCH BICARBONATE WAND
16. CONCENTRATE PUMP
17. BICARBONATE PUMP
20. DEAERATION PUMP
21. FLOW PUMP
22. UF PUMP
24. DIALYZER VALVE 1
25. DIALYZER VALVE 2
28. BYPASS VALVE
29. RECIRCULATION VALVE
30. DRAIN VALVE
31. BALANCE CHAMBER VALVE
32. BALANCE CHAMBER VALVE
33. BALANCE CHAMBER VALVE
34. BALANCE CHAMBER VALVE
35. BALANCE CHAMBER VALVE
36. BALANCE CHAMBER VALVE
37. BALANCE CHAMBER VALVE
38. BALANCE CHAMBER VALVE
39. BYPASS VALVE FOR DEAERATION ORIFICE
41. WATER INLET VALVE
43. VENT VALVE FOR AIR SEPARATION CHAMBER
48. DEAERATION ORIFICE
54. HEATER
61. WATER INLET PRESSURE REGULATOR
63. CHECK VALVE FROM UF PUMP TO SAMPLE PORT
64. CHECK VALVE FROM SAMPLE PORT TO DRAIN
65. LOADING PRESSURE VALVE
69. AIR SEPARATION CHAMBER
71. ACID/ACETATE FILTER
72. BICARBONATE FILTER
73. FROM DIALYZER LINE FILTER
74. UF PUMP FILTER
75. DIALYSATE LINE FLOW INDICATOR
77. HEAT EXCHANGER
78. FLOW PUMP PRESSURE RELIEF VALVE
82. MIXING CHAMBER
90. DIASAFE FILTER
91. 3–WAY VALVE
92. TRANSDUCER PROTECTOR

NOTES:
1.) ITEMS 90, 91, 92 ARE PART OF THE DIASAFE FILTER OPTION AND ARE NOT PRESENT ON ALL MACHINES.

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DRAWN	7.21.00	B. HOLMQUIST

MATERIAL

2008K HYDRAULIC FLOW DIAGRAM

SCALE NONE

FRESENIUS

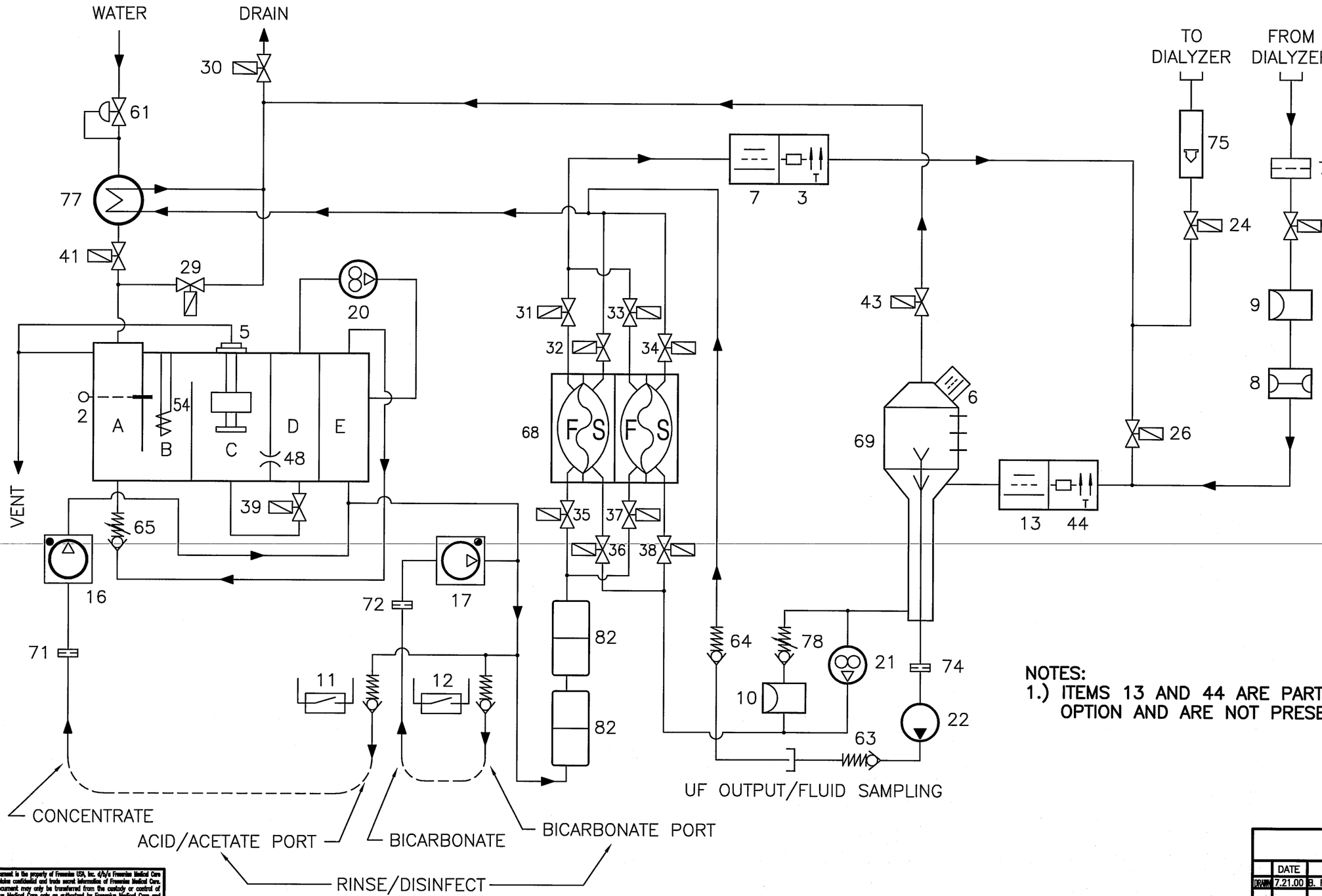
700072

REV. D

DWG_700072 2008K HYDRAULIC FLOW DIAGRAMS

HYDRAULICS: FRESENIUS 2008K WITH ONLINE CLEARANCE

REV	ECO #	BY	DATE	CHK	REVISION
A	7222	BH	7.21.00	JEF	RELEASE
B	7655	RR	10.11.01	JEF	ADD 3 OTHER HYDRAULIC CONFIGURATIONS
C	12092	RR	9.25.03	JEF	ADD 2 DIASAFE PLUS HYDRAULIC CONFIGURATIONS
D	21053	BH	7.11.07	JEF	CORRECT FLOW FOR TEST VALVE 28



COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
9. DIALYSATE PRESSURE TRANSDUCER
10. CHAMBER FULL SWITCH
11. REED SWITCH CONCENTRATE WAND
12. REED SWITCH BICARBONATE WAND
13. POST CONDUCTIVITY CELL
16. CONCENTRATE PUMP
17. BICARBONATE PUMP
20. DEAERATION PUMP
21. FLOW PUMP
22. UF PUMP
24. DIALYZER VALVE 1
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36. BALANCE CHAMBER VALVE
37. BALANCE CHAMBER VALVE
38. BALANCE CHAMBER VALVE
39. BYPASS VALVE FOR DEAERATION ORIFICE
41. WATER INLET VALVE
43. VENT VALVE FOR AIR SEPARATION CHAMBER
44. POST TEMPERATURE THERMISTOR
48. DEAERATION ORIFICE
54. HEATER
61. WATER INLET PRESSURE REGULATOR
63. CHECK VALVE FROM UF PUMP TO SAMPLE PORT
64. CHECK VALVE FROM SAMPLE PORT TO DRAIN
65. LOADING PRESSURE VALVE
69. AIR SEPARATION CHAMBER
71. ACID/ACETATE FILTER
72. BICARBONATE FILTER
73. FROM DIALYZER LINE FILTER
74. UF PUMP FILTER
75. DIALYSATE LINE FLOW INDICATOR
77. HEAT EXCHANGER
78. FLOW PUMP PRESSURE RELIEF VALVE
82. MIXING CHAMBER

NOTES:
1.) ITEMS 13 AND 44 ARE PART OF THE ONLINE CLEARANCE OPTION AND ARE NOT PRESENT ON ALL MACHINES,

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	DATE	NAME
DRAWN	7.21.00	B. HOLMQUIST

MATERIAL

2008K HYDRAULIC FLOW DIAGRAM

SCALE: NONE

FRESENIUS

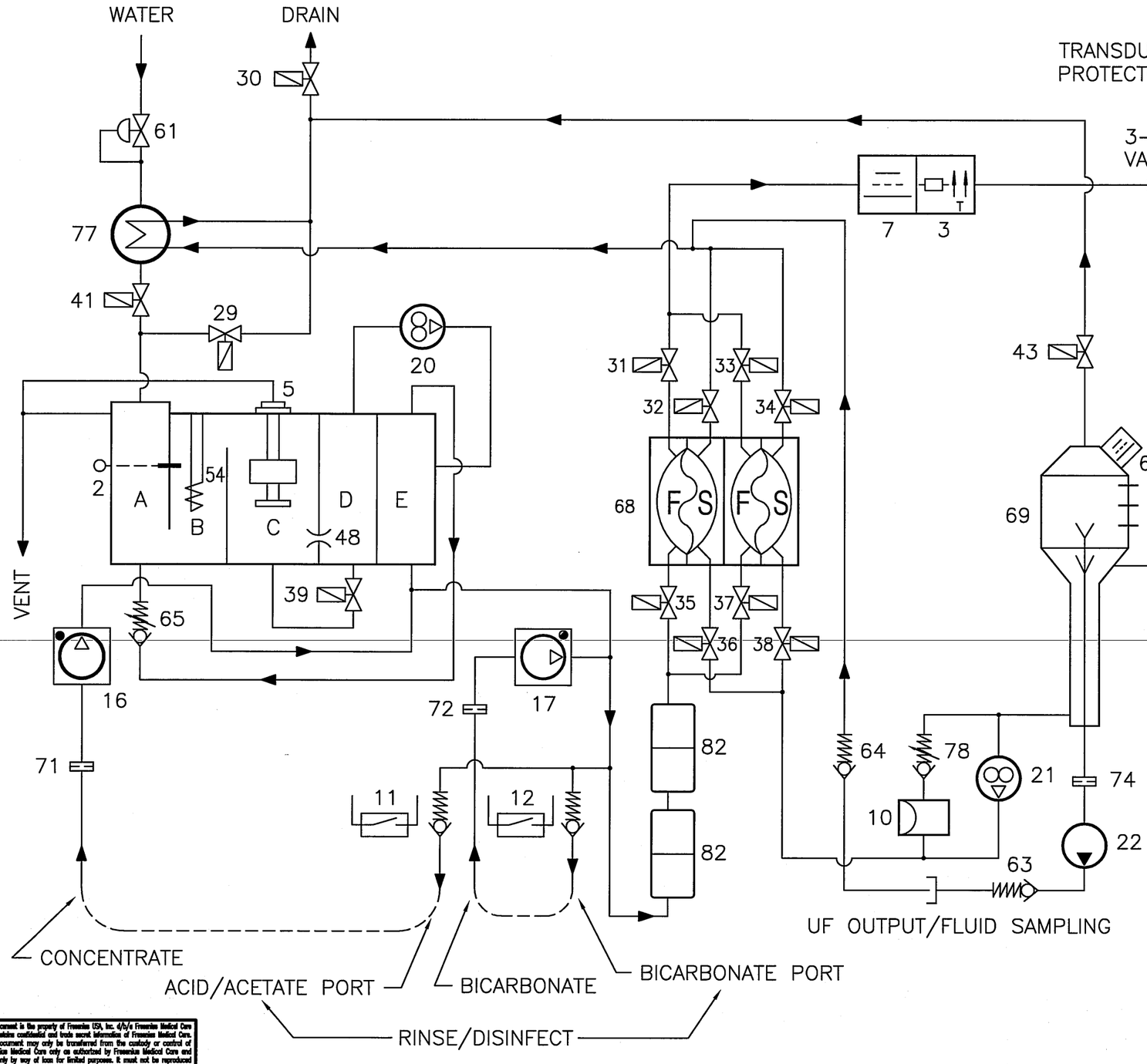
700072

REV. D

DWG_700072 2008K HYDRAULIC FLOW DIAGRAMS

HYDRAULICS: FRESENIUS 2008K WITH DIASAFE FILTER AND ONLINE CLEARANCE

REV	ECO #	BY	DATE	CHK	REVISION
A	7222	BH	7.21.00	JEF	RELEASE
B	7655	RR	10.11.01	JEF	ADD 3 OTHER HYDRAULIC CONFIGURATIONS
C	12092	RR	9.25.03	JEF	ADD 2 DIASAFE PLUS HYDRAULIC CONFIGURATIONS
D	21053	BH	7.11.07	JEF	CORRECT FLOW FOR TEST VALVE 28



COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
9. DIALYSATE PRESSURE TRANSDUCER
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11. REED SWITCH CONCENTRATE WAND
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75. DIALYSATE LINE FLOW INDICATOR
77. HEAT EXCHANGER
78. FLOW PUMP PRESSURE RELIEF VALVE
82. MIXING CHAMBER
90. DIASAFE FILTER
91. 3-WAY VALVE
92. TRANSDUCER PROTECTOR

NOTES:
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2.) ITEMS 13 AND 44 ARE PART OF THE ONLINE CLEARANCE OPTION AND ARE NOT PRESENT ON ALL MACHINES,

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	DATE	NAME
DRAWN	7.21.00	B. HOLMQUIST

MATERIAL

2008K HYDRAULIC FLOW DIAGRAM

SCALE NONE

FRESENIUS

700072

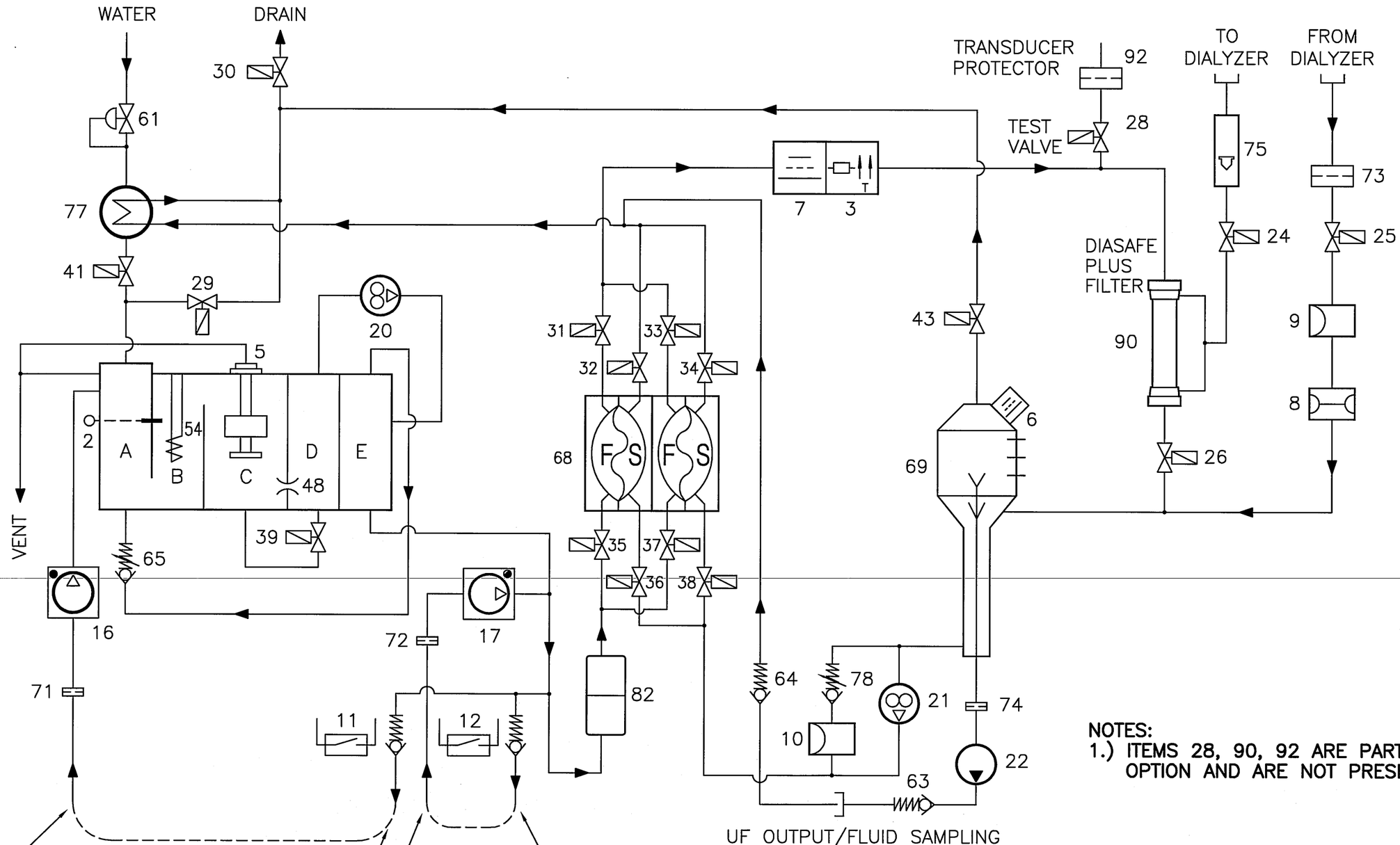
REV. D

SHEET 4 OF 6

DWG_700072 2008K HYDRAULIC FLOW DIAGRAMS

HYDRAULICS: FRESENIUS 2008K WITH DIASAFE PLUS FILTER

REV	ECO #	BY	DATE	CHK	REVISION
C	12092	RR	9.25.03	JEF	ADD 2 DIASAFE PLUS HYDRAULIC CONFIGURATIONS
D	21053	BH	7.11.07	JEF	CORRECT FLOW FOR TEST VALVE 28



COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
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5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
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75. DIALYSATE LINE FLOW INDICATOR
77. HEAT EXCHANGER
78. FLOW PUMP PRESSURE RELIEF VALVE
82. MIXING CHAMBER
90. DIASAFE PLUS FILTER
92. TRANSDUCER PROTECTOR

NOTES:
1.) ITEMS 28, 90, 92 ARE PART OF THE DIASAFE PLUS FILTER OPTION AND ARE NOT PRESENT ON ALL MACHINES.

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	DATE	NAME
DRAWN	8.27.03	J. FOX

MATERIAL

FRESENIUS

2008K HYDRAULIC FLOW DIAGRAM

SCALE NONE

700072

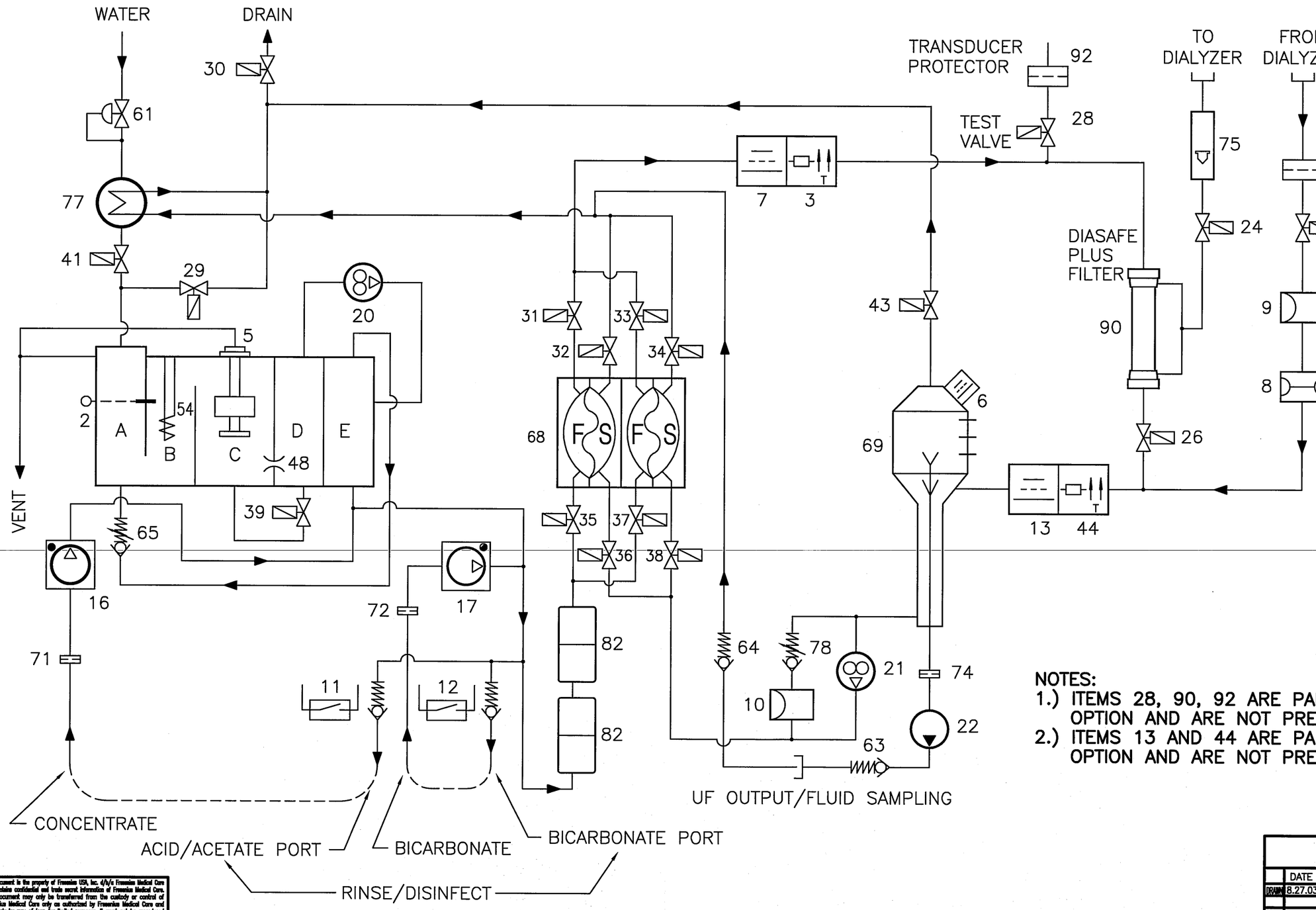
REV. D

SHEET 5 OF 6

DWG_700072 2008K HYDRAULIC FLOW DIAGRAMS

HYDRAULICS: FRESENIUS 2008K WITH DIASAFE PLUS FILTER AND ONLINE CLEARANCE

REV	ECO #	BY	DATE	CHK	REVISION
C	12092	RR	9.25.03	JEF	ADD 2 DIASAFE PLUS HYDRAULIC CONFIGURATIONS
D	21053	BH	7.11.07	JEF	CORRECT FLOW FOR TEST VALVE 28



COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
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43. VENT VALVE FOR AIR SEPARATION CHAMBER
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NOTES:
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	DATE	NAME
DRAWN	8.27.03	J. FOX

MATERIAL

2008K HYDRAULIC FLOW DIAGRAM

SCALE NONE

FRESENIUS

700072

REV. D

DWG_700072 2008K HYDRAULIC FLOW DIAGRAMS